

What is claimed is:

1. A camera rotation device, comprising:
a motor provided on a rotated side rotating with a camera with respect to a rotating side rotating the camera; and
torque transfer means for transferring torque of the motor to the rotating side and therefore rotating the motor as well as the camera on the rotated side using reaction force of the rotating side.
2. A camera rotation device, comprising:
a base section;
a pan section provided rotatably in a pan direction with respect to said base section;
a pan motor provided in the pan section;
pan torque transfer means for transferring torque of the pan motor to the base section and rotating the pan section using reaction force of the base section;
a tilt section provided rotatably in a tilt direction with respect to the pan section;
a tilt motor provided in the tilt section; and
a tilt torque transfer means which transfers torque of the tilt motor to the pan section and rotates the tilt section by reaction force of the pan section.
3. A camera rotation device according to claim 2, wherein the pan torque transfer means and the tilt torque transfer means are composed of spur gears.

4. A camera rotation device according to claim 3, wherein the pan torque transfer means comprises a pan end gear fixed to the base section and at least one pan intermediate reduction gear interposed between the pan motor and the pan end gear, and the tilt torque transfer means comprises a tilt end gear fixed to the pan section and at least one tilt intermediate reduction gear interposed between the tilt motor and the tilt end gear.

5. A camera rotation device according to claim 4, wherein at least one of the pan intermediate reduction gears and at least one of the tilt intermediate reduction gears are used in common with each other.

6. A camera rotation device, comprising:

- a base section;
- a first rotation section provided rotatably in a first direction with respect to the base section;
- a first rotation drive means rotating the first rotation section with respect to the base section;
- a second rotation section provided rotatably in a second direction with respect to said first rotation section; and
- a second rotation drive means rotating the second rotation section with respect to the first rotation section,

wherein at least one of the first rotation drive means and the second rotation drive means comprises:

- a motor provided on a rotated side; and
- torque transfer means for transferring torque of the motor on the

rotated side to a rotating side so as to rotate the motor as well as the rotated side using reaction force of the rotating side.

7. A camera rotation device according to claim 6, wherein the torque transfer means is composed of spur gears.

8. A camera rotation device according to claim 6, wherein the torque transfer means comprises a stationary gear fixed to the rotating side and at least one intermediate reduction gear interposed between the motor and the stationary gear.

9. A camera rotation device according to claim 8, wherein both the first rotation drive means and the second rotation drive means comprise the motor and the torque transfer means, and at least one each of the intermediate reduction gears provided on the two torque transfer means of the first rotation drive means and the second rotation drive means are used in common with each other.

10. A camera apparatus comprising the camera rotation device according to claim 1.

11. A camera apparatus comprising the camera rotation device according to claim 2.

12. A camera apparatus comprising the camera rotation device according

to claim 6.